



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kazuhiro OHKOUCHI et al.

Serial No.: 10/810,898

Group Art Unit: 1615

Filed: March 29, 2004

Examiner: Jyothsna A. Venkat

For: QUICKLY DISINTEGRATING SOLID PREPARATIONS

DECLARATION UNDER RULE 1.132

Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

Sir:

I, Kazuhiro OHKOUCHI, citizen of Japan declare and say that:

1. I was a graduate with the degree of Master of Pharmacy, Faculty of Pharmacy, Kyoto University, Japan in March, 1989.

2. Since April, 1989 up to this time, I have been an employee of Takeda Pharmaceutical Company Limited, the assignee of the above-identified application. From 1989 to 1996, I was a Research Associate of said company and, from August, 1994 to July, 1995, I was a Research Scientist, College of Pharmacy, University of Kentucky, Lexington, U.S.A. From 1996 to this time, I have been Assistant Research Head of said company.

3. I am one of the inventors of the above-identified application and am familiar with the subject matter thereof.

4. I have read the Office Action mailed May 1, 2006 and the references cited therein and am familiar with the subject matter thereof.

5. In order to show that an intraorally quickly disintergating solid preparation having excellent properties can be obtain by using a saccharide or sugar alcohol with a mean particle diameter of 30  $\mu\text{m}$  to 300  $\mu\text{m}$  without any problem in productivity, the mean particle diameter in Examples and Comparative Examples disclosed in the above-identified application are summarized below.

Example and Comp. Ex. Nos.	Saccharide/ sugar alcohol	Mean particle diameter ( $\mu\text{m}$ )
Example 1	D-mannitol	130
Example 2	D-mannitol	45 and 130
Example 3	D-mannitol	45 and 130
Example 4	D-mannitol	45 and 130
Example 5	D-mannitol	130
Example 6	D-mannitol	130
Example 7	D-mannitol	130
Example 8	lactose/D-mannitol	80 and 130
Example 9	trehalose	44
Example 10	trehalose	185
Example 11	erythritol	178
Example 12	xylitol	135
Example 13	maltitol	181
Example 14	erythritol	75
Example 15	sorbitol	43
Comp. Example 1	D-mannitol	21
Comp. Example 2	D-mannitol	21

Further, Table 1 disclosed in the above-identified are shown below. Table 1 shows the results of measurement of the hardness and the intraoral disintegration time of the tablets obtained in the Examples and Comparative Examples, and the results of evaluation of productivity based on the observation of fluidity, binding property, and adhesion of powder to the surface of the punch during production of tablets.

Table 1

Productivity, hardness, and intraoral disintegration time of tablets

	Tabletting pressure (kN/cm <sup>2</sup> )	Fluidity during tabletting	Binding property	Adhesion to punch	Hardness (N)	Intraoral disintegration time (second)
Example 1	9.8	good	absent	absent	37	25
Example 2	4.9	good	absent	absent	17	17
	9.8	good	absent	absent	39	16
	19.6	good	absent	absent	50	20
Example 3	9.8	good	absent	absent	24	17
Example 4	9.8	good	absent	absent	25	24
Example 5	9.8	good	absent	absent	26	19
Example 6	9.8	good	absent	absent	26	13
Example 7	9.8	good	absent	absent	33	25
Example 8	7.4	good	absent	absent	29	22
Example 9	2.9	good	absent	absent	21	52
Example 10	2.9	good	absent	absent	16	43
Example 11	7.4	good	absent	absent	36	31
Example 12	14.7	good	absent	absent	16	61
Example 13	9.8	good	absent	absent	21	51
Example 14	2.9	good	absent	absent	17	38
Example 15	2.9	good	absent	absent	16	67
Comparative Example 1	9.8	insufficient	present	present	49	26
Comparative Example 2	9.8	insufficient	present	present	33	21
Comparative Example 3	2.9	insufficient	present	present	25	36

As seen from Table 1, the preparations of Examples 1 to 15 have improved (a) fluidity during tabletting, (b) binding property and (c) adhesion to punch as compared with the preparations of Comparative Examples 1 to 3. Thus, Table 1 clearly shows that an intraorally quickly disintegrating solid preparation having excellent properties can be obtained by using a saccharide or sugar alcohol with a mean particle diameter of 30  $\mu$ m to 300  $\mu$ m without any problem in productivity.

6. I declare further that all statements made herein of

my own knowledge are true and that all statements made on information and belief are to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-identified application or any patent issuing thereon.

This 14<sup>th</sup> day of September , 2006

Kazuhiro Ohkouchi

Kazuhiro OHKOUCHI